

Infographic

# How AB-QM 4.0 redefines the value of PICVs

An interactive comparison between Danfoss AB-QM and new AB-QM 4.0

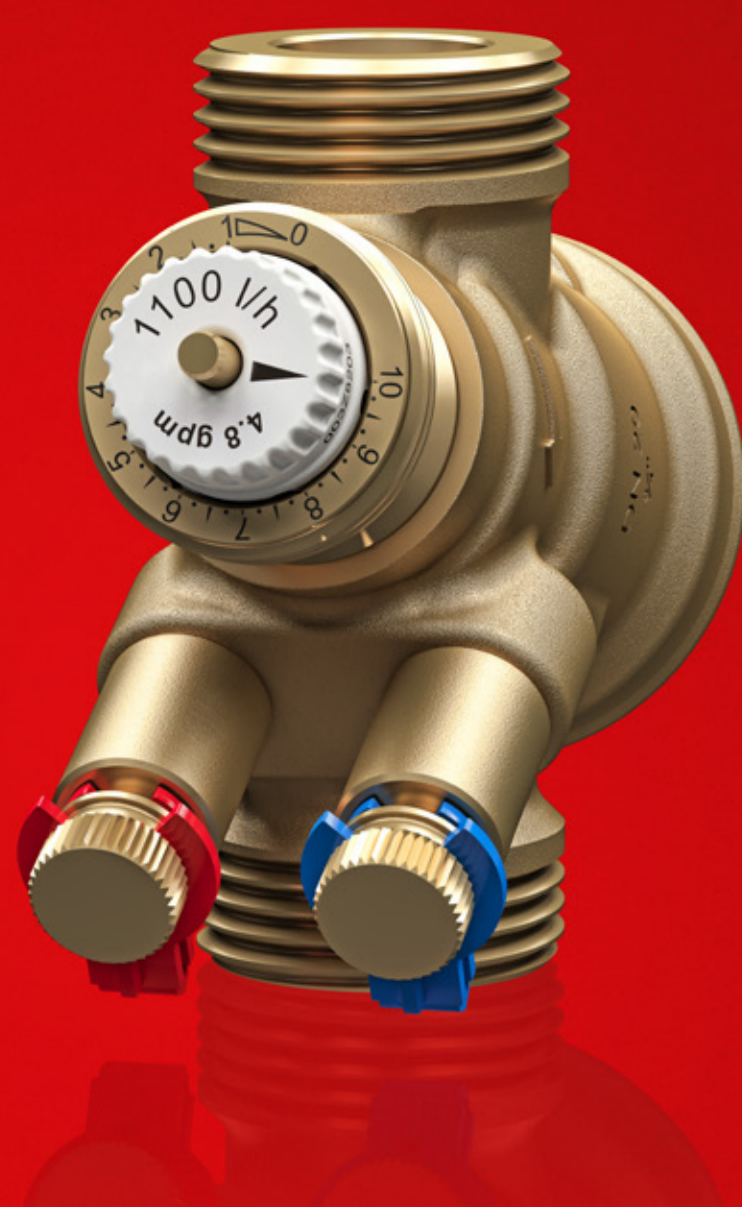
15 years ago Danfoss AB-QM created a new way of hydronic balancing and control in HVAC heating and cooling systems by introducing Pressure Independent balancing and Control Valves (PICVs).

Now we redefine PICV value with AB-QM 4.0. The successor of AB-QM is designed to be the indisputable best PICV on the market. Find out what we did and how that helps your PICV designs.

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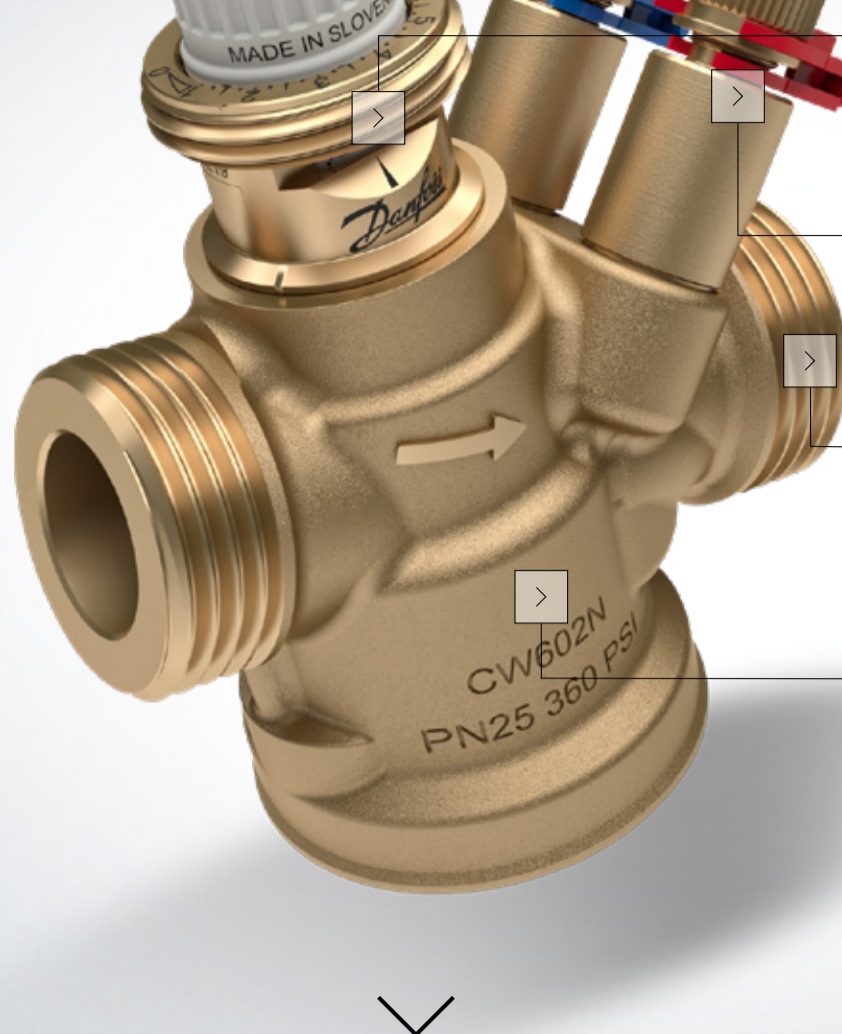
## Specification and installation

### For those who want to win tenders

AB-QM is designed to comply with modern specifications. It has multiple features and functionalities that simplify installation and commissioning.

For example, the control accuracy, especially at low flow settings, has been improved for optimized energy efficiency and comfort.

Also, the flow range per DN size has been increased, allowing smaller valves to perfectly control larger flows. This results in competitive project prices with best-in-class products.



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## Setting

### NEW AB-QM 4.0

Visible setting with mounted actuator

Nominal flow in l/h and US GPM

1-10 scale for 10-100% flow setting

Stroke limitation principle

### AB-QM

Invisible setting with mounted actuator

Nominal flow in l/h

20-100 scale for 20-100% flow setting

Stroke limitation principle

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[Measuring](#)

## Measuring

### NEW AB-QM 4.0

Accurate flow measuring

Test plugs optional

Standard test plugs c.t.c. distance

### AB-QM

Flow indication

Test plugs optional

Non-standard test plugs c.t.c. distance

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[Connections](#)

## Connections

### NEW AB-QM 4.0

Standard external thread acc. ISO 228/1

Standard internal thread acc. ISO 7/1

Available in DN 15LF – DN 32HF\*

\*) DN 25 – DN 32 will be available mid 2021

### AB-QM

Short external thread acc. ISO 228/1

No internal thread version

Available in DN 10LF – DN32HF

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[Pressure and Flow](#)

## Pressure and Flow

### NEW AB-QM 4.0

PN 25 / 360 PSI

$\Delta P$  min. = 16 kPa (LF, NF)  
= 25 kPa (HF)

Qmin. = 10% of Qnom.

Increased design flow settings:

- DN 10: **not available**

- DN 15: **20 – 1200 l/h**

- DN 20: **110 – 1900 l/h**

- DN 25: **220 – 4100 l/h\***

- DN 32: **410 – 6000 l/h\***

\*) unofficial, expected values

### AB-QM

PN 16 / 300 PSI

$\Delta P$  min. = 16 kPa (LF, NF)  
= 32 kPa (HF)

Qmin. = 20% of Qnom.

Design flow settings:

- DN 10: 15 – 275 l/h

- DN 15: 55 – 1135 l/h

- DN 20: 180 – 1700 l/h

- DN 25: 340 – 2700 l/h

- DN 32: 640 – 4000 l/h

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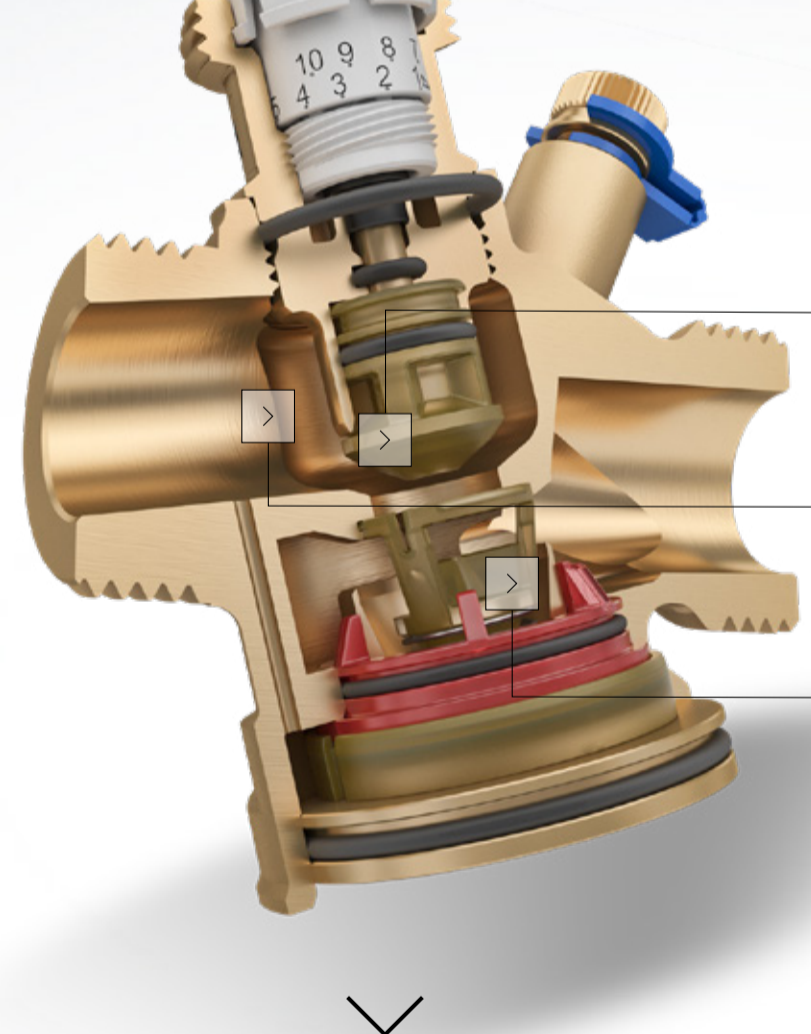
## Reliability and robustness

### For those who want superior quality

AB-QM 4.0 is designed for a long lifetime value to reduce the buildings' total costs of ownership. For example the presence of scaling and clogging in heating and cooling systems can't be avoided.

By using innovative PPSU polymer for the inner components most sensitive to scaling, we reduce the effect and maintain the high control performance over a longer lifetime.

Flushing and filling of the system can now be performed in both directions, saving precious time before commissioning and hand-over of the system.



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## Control valve

### NEW AB-QM 4.0

PPSU polymer and DZR brass materials

Reduced scaling and clogging compared to AB-QM PICV

Stroke 4 mm for all valve sizes

### AB-QM

DZR brass materials

Below average scaling and clogging compared to other PICVs on the market

Stroke 2.25 – 4.5 mm depending on valve size

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[Valve body](#)

## Valve body

### NEW AB-QM 4.0

DZR brass

Bi-directional flushing and filling

Made as 1 part

### AB-QM

DZR Brass

Flow-direction flushing and filling

Made from 2 parts

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[Pressure controller](#)

## Pressure controller

### NEW AB-QM 4.0

Re-designed, low friction, differential pressure controller that reduces the hysteresis

PPSU polymer and DZR brass materials

Reduced scaling and clogging compared to AB-QM PICV

Functions over control valve only for 100% valve authority to ensure high accuracy pressure independent control performance

### AB-QM

Membrane-driven differential pressure controller that reduces the hysteresis

DZR Brass materials

Below average scaling and clogging compared to other PICVs on the market

Functions over control valve only for 100% valve authority to ensure high accuracy pressure independent control performance

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